EMLID

REACH RS3

RTK GNSS receiver with tilt compensation

Multi-band base and rover

IMU tilt compensation

LTE modem

Dual-band radio

Key features

High-precision IMU
Tilt: RTK + 2 mm + 0.3 mm/°

Survey with under 20 mm precision at up to 60 degree tilt. Reach RS3 is calibration-free and works out of the box. The receiver is immune to magnetic disturbances, so metal objects and electronics don't affect the accuracy.

Get a Fix in 5 seconds

The receiver gets a cm-accurate solution in ~5 seconds and maintains robust performance even when the sky is partially obstructed or the unit is tilted. Signals tracked: GPS/QZSS, GLONASS, BeiDou, and Galileo.

18 hours of work with tilt compensation

The industrial-grade battery can endure up to 22 hours of logging or 18 hours of work as an RTK rover with tilt compensation. For uninterrupted multi-day operations, simply connect a power bank via USB-C.

### RINEX logging and PPP support

Reach RS3 records raw data in the RINEX format for post-processing. Use our free PPK software, Emlid Studio, or any other software with RINEX support. Logs are also compatible with OPUS, AUSPOS, and PPP services.

Built-in LTE modem

Insert a SIM card into Reach RS3 and let it broadcast or receive corrections via NTRIP.

Rugged and compact

The polycarbonate body coated with elastomer makes Reach RS3 impact-resistant and ready for harsh conditions. The receiver is dustproof and waterproof to IP67 with an operating temperature of -20° to 65° C (-4° to 149° F).
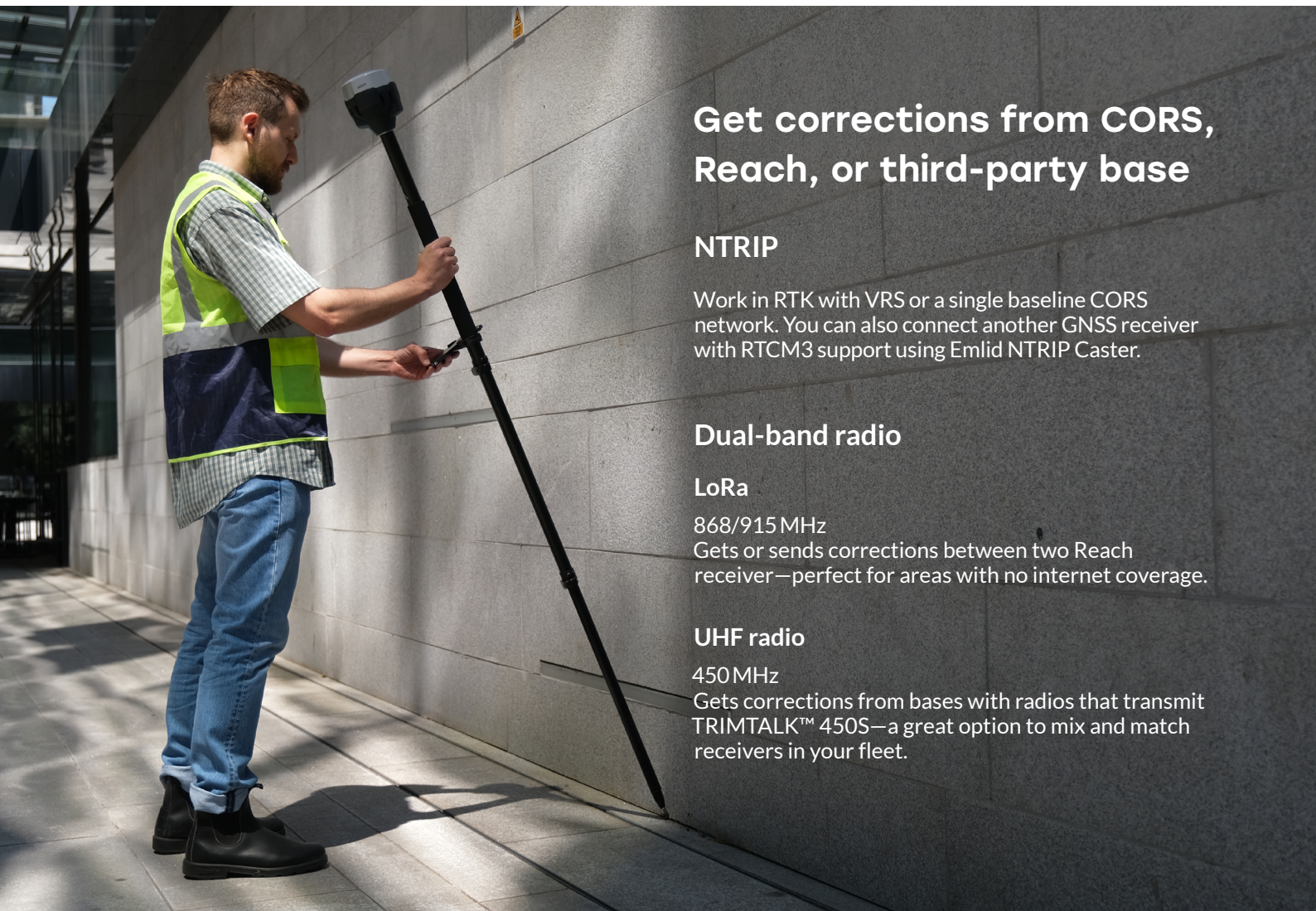
Get corrections from CORS, Reach, or third-party base

NTRIP

Work in RTK with VRS or a single baseline CORS network. You can also connect another GNSS receiver with RTCM3 support using Emlid NTRIP Caster.

Dual-band radio

LoRa
868/915 MHz
Gets or sends corrections between two Reach receiver—perfect for areas with no internet coverage.

UHF radio
450 MHz
Gets corrections from bases with radios that transmit TRIMTALK™ 450S—a great option to mix and match receivers in your fleet.

Comes with software for the field and the office

Emlid Flow

The Emlid Flow mobile app manages all field-related tasks, including receiver configuration, RINEX logging, data collection, and stakeout.

- Tilt compensation
- Points and lines
- Coding
- Localization
- Background WMS/WMTS maps
- Sync with up to 3 devices

Emlid Flow 360

The cloud-based Emlid Flow 360 allows you to access your survey data in a browser and easily prepare, manage, and export your projects.

- Creating custom code libraries
- Adding WMS/WMTS layers
- Satellite map
- Export and import of survey data
- Project management and data sync
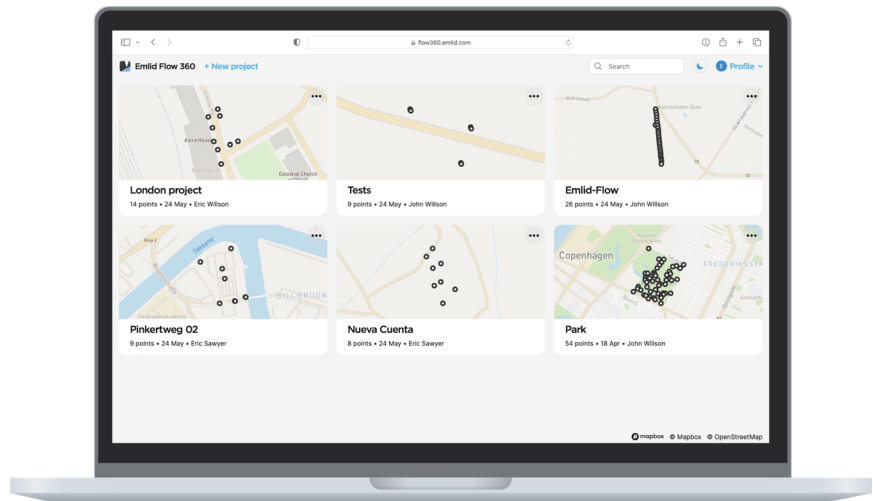
The basic features are free. Professional survey tools are available with the Survey plan. Upgrade your Emlid Flow and Flow 360 with a single subscription. Learn more about features and plans.

Expand your fleet with Reach RS3

Reach RS3

1 x Reach RS3
1 x LoRa/UHF antenna
1 x USB cable
1 x Carrying case with strap

Free 3-month subscription
to the Emlid Flow Survey Plan

Reach RS3 Survey Kit

2 x Reach RS3
2 x LoRa/UHF antenna
2 x USB cable
2 x Carrying case with strap

Free 3-month subscription
to the Emlid Flow Survey Plan

Reach RS3 specifications

POSITIONING

Precision	Static	H: 4 mm + 0.5 ppm V: 8 mm + 1 ppm
	PPK	H: 5 mm + 0.5 ppm V: 10 mm + 1 ppm
	RTK	H: 7 mm + 1 ppm V: 14 mm + 1 ppm
Convergence time		~5 s typically
Tilt compensation		RTK + 2 mm + 0.3 mm/°
Signals		GPS/QZSS L1C/A, L2C, GLONASS L1OF, L2OF, BeiDou B1I, B2I, Galileo E1-B/C, E5b
Number of channels		184
Update rate		Up to 10 Hz
IMU		6DOF

MECHANICAL

Dimensions	126 x 126 x 142 mm
Weight	950 g
Operating temperatures	-20 to +65 °C
Ingress protection	IP67

ELECTRICAL

Autonomy	18 hrs as an RTK rover with tilt compensation, 22 hrs of logging
Battery	Li-Ion 5200 mAh, 7.2 V, 37.44 Wh
Charging	USB-C 5 V, 3 A

CONNECTIVITY

LoRa radio		Transmit and receive
	Frequency range	868/915 MHz
	Power	0.1 W
	Distance	Up to 8 km
UHF radio		Receive-only
	Frequency range	410–470 MHz
	Protocol	TRIMTALK 450S*
	Modulation type	GMSK
LTE modem	Regions	Global
	Bands	FDD-LTE: 1, 2, 3, 4, 5, 7, 8, 12, 13, 18, 19, 20, 26, 28, 66
		TD-LTE: 38, 40, 41
		UMTS (WCDMA/FDD): 1, 3, 2, 4, 5, 6, 8, 19
		Quad-band, 850/1900, 900/1800MHz
	SIM card	Nano-SIM
Wi-Fi		802.11b/g/n
Bluetooth		4.0/2.1 EDR
Ports		RS-232, USB-C
Protocols	Corrections	NTRIP, RTCM3
	Position output	NMEA, LLH/XYZ
Data logging		RINEX, NMEA, LLH/XYZ, UBX
Internal storage		16 GB

*TRIMTALK is a trademark of Trimble Inc.

For more information,
visit emlid.com

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